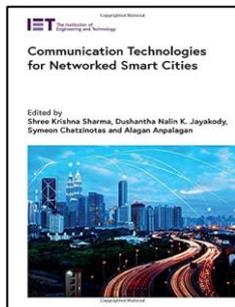


## Communication Technologies for Networked Smart Cities



v pevné vazbě, 345 stran  
vyd. Institution of Engineering and  
Technology, VII/2021  
ISBN 9781839530296

katalog.cena cca 3.720 Kč vč.DPH  
v této nabídce **2.960 Kč** vč.DPH

One of the crucial challenges for future smart cities is to devise a citywide network infrastructure capable of effectively guaranteeing resource-efficient and reliable communications while managing the complexity of heterogeneous devices and access technologies. This edited book highlights and showcases state of the art research and innovations in 5G and beyond wireless communications technologies for connected smart cities. The main objectives of this work include the exploration of recent advances and application potentials of various communication technologies as promising enablers for future networked smart cities, the investigation of design-specific issues for the integration of different architectural components of smart cities, and addressing various challenges and identifying opportunities in terms of interoperability of potential solutions.

The book is aimed at a core and interdisciplinary audience of engineers, researchers and professionals working on smart cities concepts and supporting the integration of next-generation information, communication, networking and sensing technologies. It will also be a very useful ancillary for advanced students and other professionals working on next-generation communication networks.

## Recent Trends in Microstrip Antennas for Wireless Applications

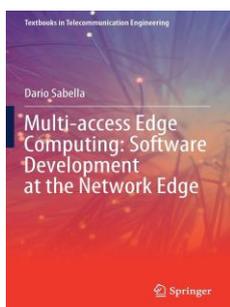


v měkké vazbě,  
vyd. Nova Science Publishers,  
VI/2022  
ISBN 9781685077440

katalog.cena cca 2.360 Kč vč.DPH  
v této nabídce **1.760 Kč** vč.DPH

The book covers a broad range of topics, including basic antenna theory, analytical and numerical techniques in applied electromagnetics, antenna arrays (including adaptive), aperture antennas, antenna measurements, microwave engineering, industrial and medical microwave applications, and so on. 5G propagation, MIMO and array antennas, optical nano-antennas, scattering and diffraction, computational electromagnetics, radar systems, plasmonics and nanophotonics, and advanced EM materials and structures such as metamaterials and metasurfaces are among the subjects covered in the book.

## Multi-Access Edge Computing



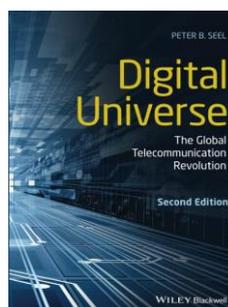
v pevné vazbě, 409 stran  
vyd. Springer Nature, VIII/2021  
ISBN 9783030796174

katalog.cena cca 2.340 Kč vč.DPH  
v této nabídce **1.640 Kč** vč.DPH

The textbook covers the main aspects of Edge Computing, from a thorough look at the technology to the standards and industry associations working in the field. The book is conceived as a textbook for graduate students but also functions as a working guide for developers, engineers, and researchers. The book aims not only at providing a comprehensive technology and standard reference overview for students, but also useful research insights and practical exercises for edge software developers and investigators in the area (and for students looking to apply their skills).

A particular emphasis is given Multi-access Edge Computing (MEC) as defined in European Telecommunications Standards Institute (ETSI), in relationship with other standard organizations like 3GPP, thus in alignment with the recent industry efforts to produce harmonized standards for edge computing leveraging both ETSI ISG MEC and 3GPP specifications. Practical examples of Edge Computing implementation from industry groups, associations, companies and edge developers, complete the book and make it useful for students entering the field. The book includes exercises, examples, and quizzes throughout.

## Digital Universe



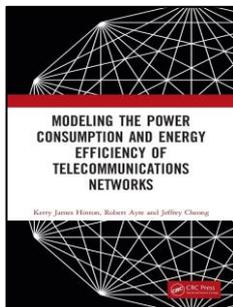
v měkké vazbě, 272 stran  
vyd. Wiley-Blackwell, III/2022  
ISBN 9781119630944

katalog.cena cca 1.420 Kč vč.DPH  
v této nabídce **1.000 Kč** vč.DPH

In this newly revised Second Edition of Digital Universe: The Global Telecommunication Revolution, journalism and digital telecommunication expert Peter B. Seel delivers a fascinating and insightful exploration of digital communication technologies and their substantial effects on contemporary life. This book traces the evolution of digital information and communication tools used around the world, from undersea telegraph cables to the newest mobile phones.

Digital Universe introduces readers to important inventors, scientists, artists, and thinkers in its discussions of the history and socio-cultural effects of technology adoption. It offers an accessible tour of the global digital universe and provides new perspectives and critical observations on mediated human communication. The book also includes: \*A thorough introduction to digital communication, the internet, and the origins of the world wide web \*Comprehensive explorations of telecommunication and media convergence, including the profound effects of the adoption of wired and wireless technologies worldwide \*Practical discussions of internet control, cyberculture, and dystopian views -- including online censorship, the loss of personal privacy, surveillance capitalism, increasing data hacks, and cyberwarfare \*The book introduces an original concept, the Tao of Technology, that encourages readers to adopt an enhanced worldview of informed ambivalence toward the diffusion of new telecommunication technologies \*A new chapter on artificial intelligence (A.I.) explores its application in global telecommunication and examines the biases introduced by its creators

## Modeling Power Consumption and Energy Efficiency of Telecommunications Networks

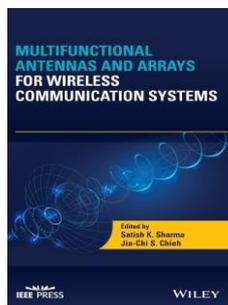


v pevné vazbě, 391 stran  
vyd. CRC Press, X/2021  
ISBN 9780367254414

katalog.cena cca 4.520 Kč vč.DPH  
v této nabídce **3.380 Kč** vč.DPH

This book introduces the technical foundations and tools for estimating the power consumption of internet networks and services, including a detailed description of how these models are constructed and applied. Modeling the Power Consumption and Energy Efficiency of Telecommunications Networks can be used to gain insight into the construction of mathematical models that provide realistic estimates of the power consumption of internet networks and services. This knowledge enables forecasting the energy footprint of future networks and services to integrate sustainability and environmental considerations into network planning and design.

## Multifunctional Antennas and Arrays for Wireless Communication Systems

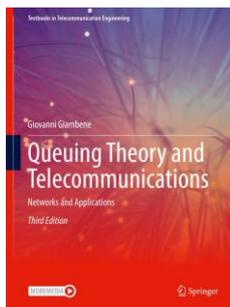


v pevné vazbě, 464 stran  
vyd. Wiley-Blackwell, VII/2021  
ISBN 9781119535058

katalog.cena cca 3.900 Kč vč.DPH  
v této nabídce **2.740 Kč** vč.DPH

This book offers an up-to-date discussion of multifunctional antennas and arrays for wireless communication systems. Multifunctional Antennas and Arrays for Wireless Communication Systems is a comprehensive reference on state-of-the-art reconfigurable antennas and 4G/5G communication antennas. The book gives a unique perspective while giving a comprehensive overview of the following topics: Frequency reconfigurable antennas, Pattern reconfigurable antennas, Polarization reconfigurable antennas, Reconfigurable antennas using Liquid Metal, Piezoelectric, and RF MEMS/MIMO and 4G/5G wireless communication antennas, Metamaterials and metasurfaces in reconfigurable antennas, Multifunctional antennas for user equipments (UEs), Defense related antennas and applications, Flat panel phased array antennas. The book is a valuable resource for the practicing engineer as well as for those within the research field. As wireless communications continuously evolves, more and more functionality will be required, and thus multifunctional antennas and RF systems will be necessary. These multifunctional antennas will require a degree of reconfigurability, and this book discusses various methods which enable this. The main topics of frequency, pattern, and polarization reconfigurability is first discussed. Methods utilizing unique materials and devices, both real and artificial are discussed.

## Queuing Theory and Telecommunications



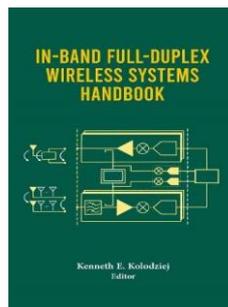
v pevné vazbě, 413 stran  
vyd. Springer Nature, X/2021  
ISBN 9783030759728

katalog.cena cca 3.300 Kč vč.DPH  
v této nabídce **2.300 Kč** vč.DPH

This thoroughly revised textbook provides a description of current networking technologies and protocols as well as important new tools for network performance analysis based on queuing theory. The third edition adds topics such as network virtualization and new related architectures, novel satellite systems (such as Space X, OneWeb), jitter and its impact on streaming services, packet level FEC techniques and network coding, new Markovian models, and advanced details on M/G/1 queuing models. The author also adds new selected exercises throughout the chapters and a new version of the slides and the solution manual.

The book maintains its organization with networking technologies and protocols in Part I and then theory and exercises with applications to the different technologies and protocols in Part II. This book is intended as a textbook for master level courses in networking and telecommunications sectors.

## In-Band Full-Duplex Wireless Systems Handbook



v pevné vazbě, 440 stran  
vyd. Artech House, III/2021  
ISBN 9781630817893

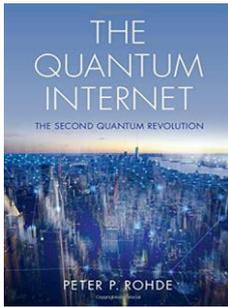
katalog.cena cca 5.580 Kč vč.DPH  
v této nabídce **4.200 Kč** vč.DPH

Many wireless systems could benefit from the ability to transmit and receive on the same frequency at the same time, which is known as In-Band Full-Duplex (IBFD). This technology could lead to enhanced spectral efficiency for future wireless networks, such as fifth-generation New Radio (5G NR) and beyond, and could enable capabilities and applications that were previously considered impossible, such as IBFD with phased array systems. In this exciting new book, experts from industry, academic, and federal research institutions discuss the various approaches that can be taken to suppress the inherent self-interference that is generated in IBFD systems.

Both static and adaptive techniques that span across the propagation, analog and digital domains are presented. Details and measured results that encompass high-isolation antenna designs, RF, and photonic cancellation as well as signal processing approaches, which include beamforming and linear/non-linear equalization are detailed. Throughout this book, state-of-the-art IBFD systems that utilize these technologies will be provided as practical examples for various applications.

Expert IBFD perspectives from multiple research organizations and companies, which would provide readers with the most accurate state-of-the-art approaches. This is the first book that dives into both the techniques that make IBFD systems possible as well as several different applications that use IBFD technology.

## Quantum Internet



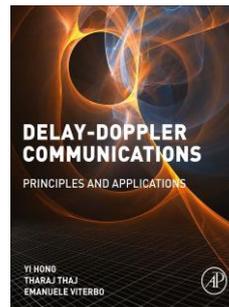
v pevné vazbě, 300 stran  
vvd. Cambridge University Press,  
IX/2021  
ISBN 9781108491457

katalog.cena cca 1.620 Kč vč.DPH  
v této nabídce **1.200 Kč** vč.DPH

Following the emergence of quantum computing, the subsequent quantum revolution will be that of interconnecting individual quantum computers at the global level. In the same way that classical computers only realised their full potential with the emergence of the internet, a fully-realised quantum internet is the next stage of evolution for quantum computation. This cutting-edge book examines in detail how the quantum internet would evolve in practise, focusing not only on the technology itself, but also the implications it will have economically and politically, with numerous non-technical sections throughout the text providing broader context to the discussion.

The book begins with a description of classical networks before introducing the key concepts behind quantum networks, such as quantum internet protocols, quantum cryptography, and cloud quantum computing. Written in an engaging style and accessible to graduate students in physics, engineering, computer science and mathematics.

## Delay-Doppler Communications



v měkké vazbě, 260 stran  
vvd. Academic Press, III/2022  
ISBN 9780323850285

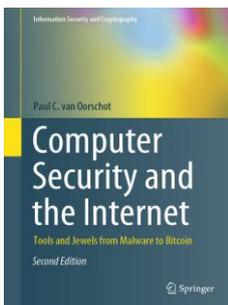
katalog.cena cca 3.100 Kč vč.DPH  
v této nabídce **2.300 Kč** vč.DPH

Orthogonal Frequency Division Multiplexing (OFDM) has been the waveform of choice for most wireless communications systems in the past 25 years. This book addresses the "what comes next?" question by presenting the recently proposed waveform known as Orthogonal Time-Frequency-Space (OTFS), which offers a better alternative for high-mobility environments. The OTFS waveform is based on the idea that the mobile wireless channels can be effectively modelled in the delay-Doppler domain.

This domain provides a sparse representation closely resembling the physical geometry of the wireless channel. The key physical parameters such as relative velocity and distance of the reflectors with respect to the receiver can be considered roughly invariant in the duration of a frame up to a few milliseconds. This enables the information symbols encoded in the delay-Doppler domain to experience a flat fading channel even when they are affected by multiple Doppler shifts present in high-mobility environments.

Delay-Doppler Communications: Principles and Applications covers the fundamental concepts and the underlying principles of delay-Doppler communications. Readers familiar with OFDM will be able to quickly understand the key differences in delay-Doppler domain waveforms that can overcome some of the challenges of high-mobility communications. For the broader readership with a basic knowledge of wireless communications principles, the book provides sufficient background to be self-contained.

## Computer Security and Internet



v pevné vazbě, 446 stran  
vvd. Springer Nature, 2. vydání,  
X/2021  
ISBN 9783030834104

katalog.cena cca 1.780 Kč vč.DPH  
v této nabídce **1.260 Kč** vč.DPH

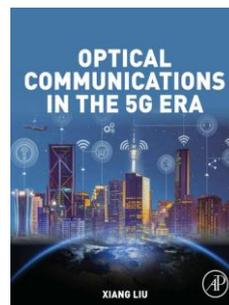
This book provides a concise yet comprehensive overview of computer and Internet security, suitable for a one-term introductory course for junior/senior undergrad or first-year graduate students. It is also suitable for self-study by anyone seeking a solid footing in security - including software developers and computing professionals, technical managers and government staff. An overriding focus is on brevity, without sacrificing breadth of core topics or technical detail within them.

The aim is to enable a broad understanding in roughly 350 pages. Further prioritization is supported by designating as optional selected content within this. Fundamental academic concepts are reinforced by specifics and examples, and related to applied problems and real-world incidents.

The first chapter provides a gentle overview and 20 design principles for security. The ten chapters that follow provide a framework for understanding computer and Internet security. They regularly refer back to the principles, with supporting examples.

These principles are the conceptual counterparts of security-related error patterns that have been recurring in software and system designs for over 50 years. The book is "elementary" in that it assumes no background in security, but unlike "soft" high-level texts it does not avoid low-level details, instead it selectively dives into fine points for exemplary topics to concretely illustrate concepts and principles. The book is rigorous in the sense of being technically sound, but avoids both mathematical proofs and lengthy source-code examples that typically make books inaccessible to general audiences.

## Optical Communications in 5G Era

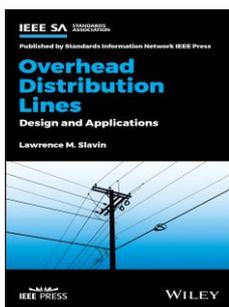


v měkké vazbě, 376 stran  
vvd. Academic Press, X/2021  
ISBN 9780128216279

katalog.cena cca 3.540 Kč vč.DPH  
v této nabídce **2.600 Kč** vč.DPH

Optical Communications in the 5G Era provides an up-to-date overview of the emerging optical communication technologies for 5G next-generation wireless networks. It outlines the emerging applications of optical networks in future wireless networks, state-of-the-art optical communication technologies, and explores new R&D opportunities in the field of converged fixed-mobile networks. Optical Communications in the 5G Era is an ideal reference for university researchers, graduate students, and industry R&D engineers in optical communications, photonics, and mobile and wireless communications who need a broad and deep understanding of modern optical communication technologies, systems, and networks that are fundamental to 5G and beyond.

## Overhead Distribution Lines



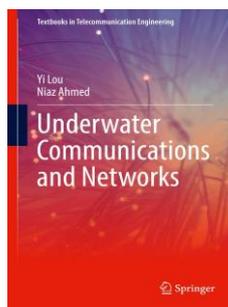
v pevné vazbě, 144 stran  
vyd. John Wiley & Sons, III/2021  
ISBN 9781119699132

katalog.cena cca 2.580 Kč vč.DPH  
v této nabídce **1.820 Kč** vč.DPH

A general overview of the use of utility distribution poles, including for electric supply and communications applications. Overhead Distribution Lines: Design and Applications provides information on the design and use of power and communication distribution lines. An excellent resource for those in the power and communication utilities industry, this book presents information on the physical characteristics of utility poles, overhead supply and communication cables, installation practices, joint-usage issues, and safety rules, including the National Electrical Safety Code (NECS), California-specific rules, and others. It describes how to select the proper poles for specific applications.

The especially valuable final chapter provides examples showing how it all works in practice, providing a background allowing more effective use of related industry software. Rather than delving into detailed design and installation techniques, this book serves as an overview for engineers and non-technical audiences alike. At the same time, it serves as a compendium of technical information not readily available elsewhere.

## Underwater Communications and Networks



v pevné vazbě, 374 stran  
vyd. Springer Nature, XI/2021  
ISBN 9783030866488

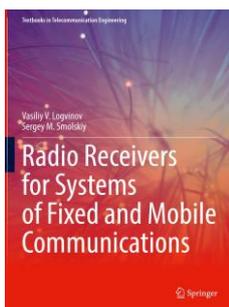
katalog.cena cca 2.320 Kč vč.DPH  
v této nabídce **1.640 Kč** vč.DPH

This textbook covers all related communication technologies of underwater wireless communication, such as acoustic communication, optical communication, and magneto-inductive communication. After describing each technology, the authors relay their pros and cons, as it is essential to learn the underlying mechanism, advancements, and limitations of these techniques. Therefore, this book provides basics fundamentals of the three technologies, their advantages and disadvantages, and their applications.

The authors also introduce research trends, pointing readers in the direction of research in the field of underwater wireless communication. The book is an essential textbook for undergraduate and graduate students in the field of underwater communications. The book is also useful as a reference to undergraduate engineering students, science students, and practicing engineers.

The book includes end-of-chapter questions and numerical problems.

## Radio Receivers for Systems of Fixed and Mobile Communications

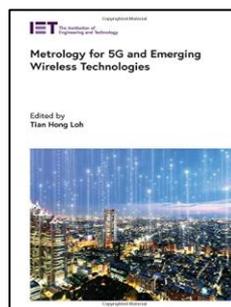


v pevné vazbě, 345 stran  
vyd. Springer Nature, V/2022  
ISBN 9783030766276

katalog.cena cca 2.320 Kč vč.DPH  
v této nabídce **1.640 Kč** vč.DPH

The textbook acquaints the reader with the architecture of receivers of analog and digital radio systems, helps to study the stages of designing a modern radio receiver and reveals the reasons and methods for its effective operation in networks for various purposes. Particular attention is paid to the methods of generating and processing signals in the receivers of digital systems with multiple access, which make it possible to provide data transfer rates close to the maximum possible (according to Shannon). As a textbook for students studying methods of optimal signal reception, the book will also be useful to specialists in the field of telecommunications involved in the development of radio receivers. The book shows how the development of theoretical, circuitry and integrated technologies led to the active introduction of algorithmic methods for signal processing changed both the design of receivers and the methods of forming the information flow in free space (MIMO, beamforming). The creation of a global 5G network based on heterogeneous networks puts forward new requirements for the architecture of receivers, which are determined by the requirements to achieve high data rates, low time delays or use in networks with coordinated multipoint transmission and reception (CoMP). To consolidate the knowledge gained, the book includes a complete set of materials for online classes, including questions and answers, a guide to solving problems for each chapter, and computer modeling units of receivers in the MicroCAP environment, based on preliminary calculations.

## Metrology for 5G and Emerging Wireless Technologies



v pevné vazbě, 766 stran  
vyd. Institution of Engineering and Technology, II/2022  
ISBN 9781839532788

katalog.cena cca 4.660 Kč vč.DPH  
v této nabídce **3.520 Kč** vč.DPH

Metrology has a pivotal role to ensure the vision of fifth generation (5G) and emerging wireless technologies to be realised. It is essential to develop the underpinning metrology in response to the high demand for universal, dynamic, and data-rich wireless applications. As new technologies for 5G and beyond increasingly emerge in the arena of modern wireless devices/systems, the standards bodies, industries, and research communities are facing the challenge of diverse technological requirements, and on verifying products that meet desired performance parameters. This edited book is the first to focus on metrology for current and future wireless communication technologies. It presents a comprehensive overview of the state-of-the-art measurement capabilities, testbeds and relevant R&D activities for 5G and emerging wireless technologies at a wide range of frequencies up to THz frequency bands. Several real-world field trials and use cases are also presented. The book focuses on R&D of measurement techniques and metrology for 5G and beyond that underpin all aspects, from signals, devices, antennas, systems and propagation environments to RF exposure. The presented materials describe advances in the triad of measurement system design, measurement techniques, and underpinning metrology required to cover many wireless communications aspects. This book, Metrology for 5G and Emerging Wireless Technologies provides timely support to industry, academia, standard bodies and NMs during the development of 5G and emerging wireless technologies.